

REMARKS

The present Amendment amends claims 1-11. Therefore, the present application has pending claims 1-11.

The Examiner is respectfully requested to contact Applicants' Attorney by telephone so as to schedule an interview to discuss the outstanding issues of the present application prior to examination based on the present Amendment.

Claims 1, 2, 4-6 and 8-11 stand rejected under 35 USC §103(a) as being unpatentable over Kodama (U.S. Patent No. 6,374,262) in view of Nakai (U.S. Patent No. 5,954,803) and further in view of Mullen (U.S. Patent No. 6,272,544); and claims 3 and 7 stand rejected under 35 USC §103(a) as being unpatentable over Kodama in view of Nakai and further of in view Mullen and still further in view of Kawagoe (U.S. Patent No. 6,438,563). These rejections are traversed for the following reasons. Applicants submit that the features of the present invention as now more clearly recited in claims 1-11 are not taught or suggested by Kodama, Nakai, Mullen or Kawagoe whether taken individually or in combination with each other as suggested by the Examiner. Therefore, Applicants respectfully request the Examiner to reconsider and withdraw these rejections.

Amendments were made to each of the claims so as to more clearly recite that according to the present invention data is extracted according preferential order information indicating a preferred order of updating particular types of data, wherein the preferred order indicates a predefined preferential order of updating particular update data having a higher preferential order prior to update data having a lower preferential order.

Thus, according to the present invention as now more clearly recited in the claims when copying the update data of a master database onto a replica, the update data is copied preferentially so that specific parts of the database namely, for example, a database table, columns of the table or keys of a column of the database are updated with priority relative to other data that may exist in the database. Thus, by use of the present invention a user who references the replica can find the latest update data with preferential attributes on the replica earlier than the other data that may require updating. Such features are clearly not taught or suggested by any of the references of record particularly Kodama, Nakai, Mullen and Kawagoe whether taken individually or in combination with each other as suggested by the Examiner.

In the Office Action the Examiner alleges that Kodama teaches, for example:

"a management unit for updating the replica with the update data in the extracted order (see col. 2, lines 63-66, wherein 'updating the replica' is read on 'transferring to the replica machine')."

However, in the Office Action the Examiner readily admits that:

"Kodama does not teach a preferential order information memory unit for holding preferential order information indicating a preferred order of updating one of a specific database table to update data of the master database on the replica; in such manner that the update data with higher preferential order is extracted earlier than the update data with lower preferential order".

The Examiner recognizing this deficiency of Kodama attempts to supply this deficiency by combining the teachings of Nakai with Kodama. In the Office Action, the Examiner alleges that Nakai teaches:

"a memory-to-memory data transfer system (see abstract), in which he teaches a preferential order information memory unit for holding preferential order information (see col. 5, lines 41-43) indicating a preferred order of updating a specific database table to update data of the master data of the replica (see col. 5, lines 43-46); in such manner that the update data with higher preferential order is extracted earlier than the update with lower preferential order (see col. 5, line 46 through col. 6, line 3)".

It appears from the Office Action that the Examiner has recognized an important feature of the present invention as now more clearly recited in the claims. This feature of the present invention provides that particular types of data can be selected for update according to a predefined priority order regardless of the timing of the changes to the underlying data requiring update. Thus, for example, according to the present invention data of a particular table can be updated prior to any other data so as to permit the updated data of the table to be immediately accessible relative to the other such data since such data may have a high priority relative to other data. The above described features of the present invention as now more clearly recited in the claims are not taught or suggested by Kodama. Kodama merely teaches a system wherein the master machine extracts records of which the replica differential reflection time is later than the master differential extraction completion time from the master data according to the time the data changes. Thus, Kodama extracts data that has not yet been reflected on the replica from the master data. In other words, Kodama teaches a method wherein data required to be extracted from the master database is extracted according to the time at which the data has been updated.

Therefore, it is quite clear that Kodama does not identify particular types of data that should be updated prior to other types of data without regard to the timing of the update as in the present invention as recited in the claims.

The above described features of the present invention which are clearly not taught or suggested by Kodama, and as such is recognized by the Examiner, are also not taught or suggested by Nakai.

Nakai simply teaches a DMA controller which provides for memory-to-memory data transfer using a DMA process wherein data is stored for indicating the order of preference of particular types of data transfer operations using the DMA process. Thus, Nakai provides that particular types of predefined data transfer operations are conducted prior to other types of data transfer operations. Therefore, Nakai is not concerned with particular types of data which must be updated prior to other types of data as in the present invention. The preference being indicated in Nakai is concerned with the type of data transfer operation not the type of data to be updated as in the present invention.

As clearly recited in each of the claims, a preferred order of updating particular types of data to be updated according to a preferential order is provided. For example, in claim 1, the data being identified is a specific database table, preferential table columns and preferential keys of a column. Thus, clearly the present invention is concerned with the preference of order of updating data of particular types rather than the preference of order of performing particular types of data transfer operations as disclosed in Nakai.

The above noted deficiencies of both Kodama and Nakai are also not supplied by any of the other references of record particularly Mullen and Kawagoe. Therefore, the combination of Kodama, Nakai, Mullen and Kawagoe still fails to teach or suggest the features of the present invention as now more clearly recited in the claims.

Mullen merely teaches a facility for ranking service classes and a server which provides a preferential order and allocates server resources to a service class in accordance with its service class. Thus, as is clear, Mullen merely discloses only ranking of service classes. There is no teaching whatsoever in Mullen of providing preferential order information indicating a preferred order of updating either one of a specific database table, preferential table columns and preferential keys of a column with respect to update data of the master database on the replica wherein the preferred order indicates a predefined preferential order of updating particular update data having a higher preferential order prior to update data having a lower preferential order as recited in the claims.

The above noted deficiencies of Kodama, Nakai and Mullen are also evident in Kawagoe. Kawagoe merely teaches a database that includes management information and database identifiers indicating the update history of the management information. As taught by Kawagoe, the database identifiers are a version showing a number of record update times and the identifiers are used for synchronizing a master database with its backup database. Thus, Kawagoe does not teach or suggest a database system which updates particular types of update data prior to other data based upon predefined preferential order information as in the present

invention. Therefore, it is quite that Kawagoe does not teach or suggest the above noted deficiencies of Kodama, Nakai and Mullen.

Since each of the above described references, namely Kodama, Nakai, Mullen and Kawagoe are each deficient of the same features of the present invention as now more clearly recited in the claims the combination of one or more of Kodama, Nakai, Mullen and Kawagoe still fails to teach or suggest the features of the present invention as now more clearly recited in the claims.

Thus, Kodama, Nakai, Mullen and Kawagoe each fails to teach or suggest a preferential order information memory unit for holding preferential order information indicating a preferred order of updating either one or a specific database table, preferential table columns and preferential keys of the column with respect to update data of the master database of the replica as recited in the claims.

Further, each of Kodama, Nakai, Mullen and Kawagoe fails to teach or suggest that the preferred order indicates a predefined preferential order of updating particular update data having a higher preferential order prior to updating update having a lower preferential order as recited in the claims.

Still further, each of Kodama, Nakai, Mullen and Kawagoe fails to teach or suggest an allocation unit for reading the update data and extracting the update data according to the preferential order information in such a manner that the update data with higher preferential order is extracted earlier than the update data having lower preferential order as recited in the claims.

Therefore, the features of the present invention as now more clearly recited in the claims are not taught or suggested by Kodama whether taken individually or in

combination with any one or more of Nakai, Mullen or Kawagoe. Accordingly, reconsideration and withdrawal of the 35 USC §103(a) rejection of claims 1, 2, 4-6 and 8-11 as being unpatentable over Kodama in view of Nakai and further in Mullen; and the 35 USC §103(a) rejection of claims 3 and 7 as being unpatentable over Kodama in view of Nakai, in view of Mullen and further in view of Kawagoe are respectfully requested.

The remaining references of record have been studied. Applicants submit that they do not supply any of the deficiencies noted above with respect to the references utilized in the rejection of claims 1-11.

In view of the foregoing amendments and remarks, applicants submit that claims 1-11 are in condition for allowance. Accordingly, early allowance of claims 1-11 is respectfully requested.

To the extent necessary, the applicants petition for an extension of time under 37 CFR 1.136. Please charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, or credit any overpayment of fees, to the deposit account of MATTINGLY, STANGER & MALUR, P.C., Deposit Account No. 50-1417 (520.39413X00).

Respectfully submitted,

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